IN THE SPECIFICATION

Please amend the paragraph beginning on page 6, line 5 as follows:

The invention also entails a method of detecting radiation as an improvement over prior art methods that merely used scintillators and light sensitive devices such as photodiodes, and arrays of photodiodes [[or photomultiplier tubes]] to receive the optical light emitted from the scintillator and convert it to an electrical signal for further processing. The inventive method includes providing a high gain amplifier and configuring the high gain amplifier and the light sensitive device in conjunction with the scintillator so that the radiation impacting on one or more semiconductors in the high gain amplifier and photodiode is directly converted into an electrical signal. This signal can then be amplified for indication of the presence of the directly converted radiation. The scintillator can substantially surround the light sensitive device and high gain amplifier to optimize the detection of radiation. Once the radiation is converted to an amplified electrical signal, one or more of an audible, vibratory, or visual signal can be used to indicate the presence and/or the intensity of the directly converted radiation. The amplified electrical signal can be converted to a digital signal and filtered to remove unwanted noise before processing into some form of indication of detected radiation. The scintillator, the photodiode, and high gain amplifier are housed in an optically opaque housing that is preferably sized to be worn on a person's body or hung on a wall or ceiling.

Please amend the paragraph beginning on page 8, line 4 as follows:

The inventive detector has a wide range for detecting alpha, beta, gamma, electromagnetic radiation (X-rays) and fast neutrons emitting from natural radioactive isotopes. The detector uses a scintillator such as Gd_2O_2S, commonly known, and referred to herein, as "gadox", to stop both low-energy neutrons and photons. Gadox is well known as a scintillating material for x-rays and is used in x-ray detection applications, such as in sheets for lining the inner surfaces of x-ray detector boxes in x-ray detection products. X-ray-induced scintillations from the gadox in the visible portion of the spectrum are then detected, typically by [[photomultipliers,]] photodiodes, and CCD arrays. Gadox has a good efficiency for stopping photons of energies below about 100 keV and converting the ionizing radiation energy into optical light that can be detected by a [[photomultiplier tube (PMT) or]] photodiode. It should be understood that any of a [[PMT,]] photodiode [[,]] or CCD array,

e.g., optical light detectors or light sensitive devices, can be used as part of the invention, providing of course that the device has the requisite semiconductors with depletion regions to provide the direct conversion of radiation to electrical energy for later detection.

Please amend the paragraph beginning on page 12, line 10 as follows:

When high energy radiation passes through the gadox 3 along path 5 and strikes a depletion layer (not shown) [[13]] inside the photodetector 2, producing a small charge or ion 11. The ion has an electron hole associated with it that can conduct electricity causing a current that is amplified by amplifier 4. High energy radiation also passes through the gadox 3, along path 5 and strikes a depletion layer 12, which is inside a diode, inside the amplifier 4, producing a small charge 8 that is amplified by amplifier 4. The signal at the output of the amplifier is processed by the A/D converter and processor 14 so that the appropriate alert can be made regarding the detected radiation.

Please amend the paragraph on page 13, beginning on line 10 as follows:

An example of such a dirty bomb detection device is shown in FIG. 2 and designated by the reference numeral 20. Radiation 21 passing through an ABS device housing 22, then enters the Alpha, Beta, Gamma, X-Ray, and fast Neutron Detector 23 along path 24 [[25]]. The detector 23 produces a small signal (mV range) 25, proportional to the intensity of the radiation. A/D converter 27 converts the analog signal 25 to a digital signal 29. Processor 31 contains firmware to eliminate noise in the digital signal 29.